Heating ◆ Piping and Air Conditioning

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As will be noted, these abstracts are classified under general heads. In searching for information on a specific subject, it will be well to look through the abstracts under the most suitable heading, and also to look through those under the other headings. For example, some of the heating articles also contain information on air conditioning, and vice versa, *as the grouping has been made on the basis of the subject most prominently covered in the article.*

The index to the Journal Section *of the* American Society of Heating and Ventilating Engineers *is separate* *(see page* 540).

This index does not include Interesting Equipment Developments; Book Reviews; Booklets, Reports, and Papers; Recent Trade Literature; and Conventions and Expositions, departments appearing regularly each month. The Editor's Page in each issue includes items of news, comments on current events, etc.

Air Conditioning

A Pioneer Study on Air Conditioning, by C. P. Yaglou.
Vol. 6. *No.* 5. *May*, 1934. *p.* 205.
(Review of "Some Psycho-Physics of Climate," by W. F. Tyler, a report of work done in 1902 in Shanghai); determination of scale of discomfort; relation to other research on comfort zones. (Illus.)

Air Conditioned Deposit Vault Proves Popular with Tenants.
Vol. 6. *No.* 5. *May*, 1934. *p.* 209.
Brief description of installation at Continental Safe Deposit Co., New York City. (Illus.)

Air Conditioned Humidor.
Vol. 6. *No.* 7. *July*, 1934. *p.* 288.
Brief description of air conditioned humidor at Dunhill shop, Rockefeller Center, New York City; capacity is 750,000 cigars.

Air Conditioner Saves Its Cost in First Carload of Tomatoes.
Vol. 6. *No.* 7. *July*, 1934. *p.* 301.
Air conditioner prevents drying out of tomatoes in ripening room; conditions maintained.

Air Conditioning Builds Business in Japan, by W. G. Hillen.
Vol. 6. *No.* 10. *October*, 1934. *p.* 429.
Advantages of air conditioning department stores and office buildings; typical installations in Japan; methods of air delivery to conditioned spaces. (Illus.)

Air Conditioning Existing Hospitals.
Vol. 6. *No.* 11. *November*, 1934. *p.* 471.
Review of report of American Hospital Association committee on air conditioning; advantages of air conditioning hospitals; cost; recommendations. (Illus.)

Air Conditioning in Hospitals.
Vol. 6. *No.* 10. *October*, 1934. *p.* 70 (*back section*).
(Answer to question); list of hospitals using air conditioning.

Air Conditioning in the Treatment of Pollen Asthma, by Tell Nelson, B. Z. Rappaport, A. G. Canar, and Wm. H. Welker.
Vol. 6. *No.* 8. *August*, 1934. *p.* 329.
Studies at College of Medicine of University of Illinois; dehumidifying and filtration apparatus used; silica gel dehumidification; special precautions with filter installation to remove pollen from air; results of the experiments; conclusions. (Illus.) See correction in issue of October, 1934, p. 430.

Air Conditioning Insures Purity Down on the Farm.
Vol. 6. *No.* 1. *January*, 1934. *p.* 16.
Room coolers installed in butter wrapping and storage rooms, Van Wert Butter Co., Van Wert, Ohio. (Illus.)

Air Conditioning Necessary in Any "Decently Constructed" Building, by F. J. Wilkins.
Vol. 6. *No.* 6. *June*, 1934. *p.* 256.
Opinion of building superintendent of air conditioned department store.

Air Conditioning of Libraries.
Vol. 6. *No.* 7. *July*, 1934. *p.* 302.
(Review of Bureau of Standards report); preventing damage to books and records from sulphur dioxide; effect of washing with treated and untreated water on sulphur dioxide content of library air; relation of sulphur dioxide content of washed air to hydrogen-ion content of wash water; importance of temperature and humidity; mildew; dust; condensation. (Illus.)

Air Conditioning Operating Cost Reduced by Efficient Use of Condensing Water, by George T. Condron.
Vol. 6. *No.* 10. *October*, 1934. *p.* 431.
Comparison of performance of steam jet refrigerating equipment; making efficient use of condensing water; combination of carbon dioxide and steam jet refrigeration for modernizing hotel air conditioning system; use of air precooler; diagrams of equipment layout; steam and condensing water consumption. (Illus.)

Air Conditioning Pays Its Way in Candy Stores.
Vol. 6. *No.* 3. *March*, 1934. *p.* 107.
Letter from Mrs. Snyder, operating thirteen candy shops in Chicago and suburbs, on advantages of air conditioning.

Air Conditioning Railway Passenger Cars.
Vol. 6. *No.* 3. *March*, 1934. *p.* 97.
Description of Union Pacific's high-speed, stream-lined three-car train "M-10000"; construction features; power plant; ducts integral with car structure; method of heating; operation of system when cooling; control of heating and air conditioning. (Illus.)

Air Conditioning System Does Two Jobs, by J. W. Baugher, Jr.
Vol. 6. *No.* 9. *September*, 1934. *p.* 394.
Air conditioned room for assembly and running-in of compressors at East Pittsburgh Works of Westinghouse Elec. & Mfg. Co.; cooling load; three suspended units cool room; one condensing units; location of equipment; fan and compressor control. (Illus.)

Alkaline Wash Water for Purification of Air.
Vol. 6. *No.* 10. *October*, 1934. *p.* 419.
Protecting against corrosion by maintaining alkalinity of air washer water.

Black Forest Climate Brought to Fair.
Vol. 6. *No.* 9. *September*, 1934. *p.* 396.
Brief description of refrigeration plant for ice skating rink and air conditioned restaurant at Black Forest Village, A Century of Progress Exposition, Chicago; direct expansion carbon dioxide for skating rink. (Illus.)

Choosing the Right Air Conditioning System, by A. Warren Canney.
Vol. 6. *No.* 11. *November*, 1934. *p.* 455.
(Part I—What Is the Proper Viewpoint?); the distinctive feature of air conditioning; significance of air conditioning; considerations in planning and air conditioning system; difference between industrial and comfort air conditioning; how compare air conditioning systems? (Illus.)

Choosing the Right Air Conditioning System, by A. Warren Canney.
Vol. 6. *No.* 12. *December*, 1934. *p.* 508.
(Part 2—Air Conditioning Methods, Equipment and the Problems They Present); objectives of an air conditioning system for comfort and the variations from them; discussion of the objectives; types of equipment and systems; classification of types of air conditioning systems represented by practice. (Illus.)

Coal Mine Installs New Fan—Saves 8552 Each Month.
Vol. 6. *No.* 10. *October*, 1934. *p.* 424.
Brief report of savings made by modernization of ventilating equipment at Old Ben Coal Corp. mine. West Frankfort, Ill.

Consulting Engineer Surveys Theater Heating and Air Conditioning, by D. D. Kimball.
Vol. 6. *No.* 12. *December*, 1934. *p.* 497.
Survey of 76 motion picture theaters in eastern part of U. S.; classification of equipment found; discussion of results of survey—service and maintenance, periods of operation, records, use of equipment, wastes, competitive plans, radiation, boilers, heating systems, diagrams, temperature control; need for modernization.

Department of Justice Air Conditions Its New Building for Office Efficiency, by J. McHollan.
Vol. 6. *No.* 8. *August*, 1934. *p.* 332.
Three water-cooling units have 1950 ton capacity; compressors use freon; data on the refrigerating equipment; nine dehumidifier units; instruments; delivery of air to rooms; method of individual control for each room unit; problems in installation of the air delivery units. (Illus.)

Design and Construction of Modern Buildings Must Allow for Air Conditioning, by S. A. McGuire.
Vol. 6. *No.* 10. *October*, 1934. *p.* 423.
Importance of allowing for air conditioning in design and construction of modern buildings; examples; the modern building a "conditioned air factory." (Illus.)

86 Shops at Radio City Air Conditioned, by André Merle.
Vol. 6. *No.* 1. *January*, 1934. *p.* 12.
Method of air conditioning the shops in the R. C. A. Building, Rockefeller Center, New York City; air distribution system has four zones; control and recorders; pumps and cooling towers; automatic air compressors for control system; two 300-ton centrifugal compressors for refrigeration; duct insulation and machinery isolation. (Illus.)

Grocery Store Ups Sales and Profits by Air Conditioning.
Vol. 6. *No.* 10. *October*, 1934. *p.* 418.
Air conditioned chain grocery store of Jitney-Jungle, Inc., Jackson, Miss.; description of system; advantages of air conditioning this store. (Illus.)

Hospital Has Air Conditioned Rooms.
Vol. 6. *No.* 10. *October*, 1934. *p.* 430.
Illustration of air conditioning unit in room at Edgewater Hospital, Chicago. (Illus.)

Increased Air Conditioning Capacity with Economy, by R. D. Touton.
Vol. 6. *No.* 7. *July*, 1934. *p.* 285.
Alteration in manufacturing operations at central plant of Bayuk Cigars, Inc., Philadelphia, Pa., required additional air conditioning capacity; increased capacity obtained by off-peak compressor operation; offices and Cellophane wrapping machines increase refrigeration load; insulation and existing ducts simplify job; compressor and off-peak operation studied; storage tank for cooled water; other changes in system; results. (Illus.)

Industrial and Comfort Air Conditioning Equipment and Application Outline.
Vol. 6. *No.* 5. *May*, 1934. *p.* 201.
Elements of air conditioning and means for achieving them;

analysis of typical installations, showing relative importance of various features.

Industrial Fan Drive Applications—V-Belt, Flat Belt, Chain, by Robert W. Drake.
Vol. 6. *No.* 1. *January*, 1934. *p.* 17.
Possibilities for fan power savings by means of mechanical transmission equipment through control of speed; flat belt drives, idler drive, pivoted motor base; belt life; V-belt drives, advantages and limitations; advantages and limitations of chain drives; considerations in drive design. (Illus.)

Maintenance of the Air Conditioning Plant, by A. Warren Canney.
Vol. 6. *No.* 9. *September*, 1934. *p.* 373.
Checking and servicing an air conditioning plant at the end of the cooling season; running refrigeration plant intermittently; preheater bypass; shutting down refrigeration plant; the cooling tower; checking the heating equipment. (Illus.)

Modernizing with Air Conditioning, by Paul Sodemann.
Vol. 6. *No.* 5. *May*, 1934. *p.* 210.
Installation of comfort cooling system in Kline's department store, St. Louis, Mo.; units located in stock bins; ammonia from street main furnishes refrigeration; three types of outlets; location of the units; control of system; advantages. (Illus.)

More Comfort, Less Noise, Faster Operation.
Vol. 6. *No.* 6. *June*, 1934. *p.* 260.
Brief description of heating and ventilating new street car developed after three years of research. (Illus.)

Newer Methods of Brewing Beer Make Brewery Air Conditioning Essential.
Vol. 6. *No.* 5. *May*, 1934. *p.* 200.
Air conditioning system in Enterprise Brewery, Fall River, Mass., for supplying clean air to baudelot coolers and cool *pschipf*. (Illus.)

One Air Conditioning System Leads to Another, by Henry W. Moore.
Vol. 6. *No.* 6. *June*, 1934. *p.* 249.
Installation in ladies' ready-to-wear shop—Ellis Stone & Co., Greensboro, N. C.; advantages of air conditioning this shop.

One Fan Does Work of Two, by Milton K. Arenberg.
Vol. 6. *No.* 3. *March*, 1934. *p.* 101.
Hospital secures economical ventilation for two rooms by using siphon principle; location of blower and design details of installation; industrial applications of method. (Illus.)

Protecting Fans from Corrosion, by Francis A. Westbrook.
Vol. 6. *No.* 6. *June*, 1934. *p.* 256.
Brief report of metal spray process for protection from corrosion.

Psychrometric Charts for Air Conditioning, by Donald B. Brooks.
Vol. 6. *No.* 5. *May*, 1934. *p.* 216.
Chart and its basis explained, with examples of use; advantages. (Illus.)

The Public Utility Studies Air Conditioning.
Vol. 6. *No.* 5. *May*, 1934. *p.* 214.
(Review of "Air Conditioning Report to Client Companies," issued by Electric Bond and Share Company); promotion of air conditioning; advantages of air conditioning; rates and revenues; the air conditioning load; development of air conditioning; air conditioning demand, in kilowatts, for a bank, and office building, a hotel, a restaurant, and a department store. (Illus.)

Real Estate Firm Has Air Conditioned Offices.
Vol. 6. *No.* 1. *January*, 1934. *p.* 11.
Installation in offices of Frederick H. Bartlett & Company, Chicago. (Illus.)

Recent Developments in Sound Control and Their Importance in Air Conditioning, by Vern O. Knudsen.
Vol. 6. *No.* 6. *June*, 1934. *p.* 245.
Why noise reduction concerns air conditioning engineers; standardization of noise units; curves of equal loudness; relation between loudness sensation and loudness level; reducing noise transmitted through ducts; changing area of pipe or duct; temperature and humidity affect acoustics of large rooms. (Illus.)

Save in Air Conditioning Cost, by A. A. Browne.
Vol. 6. *No.* 8. *August*, 1934. *p.* 344.
Arrangement for reducing air conditioning cost with steam jet refrigeration where cool condenser water from deep well is available; the process of vacuum cooling; a cooling tower application and a deep well application compared; diagrammatic arrangement of system. (Illus.)

Selection of Motors for Air Conditioning, by Oliver S. Imes.
Vol. 6. *No.* 11. *November*, 1934. *p.* 467.
Description of St. Louis Municipal Auditorium; the air conditioning and heating systems; types of motors available for driving fans, pumps, filters, and other air conditioning equipment; selecting the proper motor; control of motors; tabulation of motors installed in the Auditorium. (Illus.)

Steam Jet Equipment at Rockefeller Center, by André Merle.
Vol. 6. *No.* 3. *March*, 1934. *p.* 111.
Size of installation and views of equipment. (Illus.)

Survey by Utility Company Shows 18,860 Tons Refrigeration for Air Conditioning in Chicago.
Vol. 6. *No.* 1. *January*, 1934. *p.* 11.
Types of installations, with tons refrigeration, compressor, fan, and pump horsepower.

Temperature and Humidity Requirements for Industrial Process Air Conditioning.
Vol. 6. *No.* 9. *September*, 1934. *p.* 386.
Table of temperature and humidity requirements for several products.

Water-Vapor Refrigeration—Steam Jet, by Paul Bancel.
Vol. 6. *No.* 3. *March*, 1934. *p.* 108.
The apparatus; diagram showing operation; capacity characteristics; operating characteristics; economy; reserve capacity; arrangement of weir-type evaporator; back-pressure characteristics of steam-jet booster. (Illus.)

Water-Vapor Refrigeration for Air Conditioning—the Centrifugal Compressor Unit, by Paul Bancel.
Vol. 6. *No.* 4. *April*, 1934. *p.* 164.
Development of centrifugal machine; operation; horsepower requirements; operating characteristics; reserve capacity; overload characteristics; applications of water vapor refrigeration—industrial processes and comfort air conditioning. (Illus.)

What's the Advantage of an Air Conditioned Office?
Vol. 6. *No.* 9. *September*, 1934. *p.* 393.
Advantages of air conditioning general office of International Business Machine Corp., Endicott, N. Y.

Windowless Construction Reduces Air Conditioning Load.
Vol. 6. *No.* 7. *July*, 1934. *p.* 292.
Brief description of new windowless department store of Sears, Roebuck & Co., Chicago, Ill.; completely air conditioned. (Illus.)

World's Fair Again Demonstrates Popularity of Air Conditioning.
Vol. 6. *No.* 6. *June*, 1934. *p.* 244.
Brief description of air conditioning installations at A Century of Progress, Chicago. (Illus.)

Heating

Alert Management, Meters, and Proper Control Cut Building Heating Costs, by Lester S. Ries.
Vol. 6. *No.* 7. *July*, 1934. *p.* 293.
How department of buildings and grounds at University of Chicago reduces steam consumption for heating; 119 flow meters show building steam consumption; use of meter records; how steam is saved; Walker Museum a typical case; temperature control saves 38 per cent. (Illus.)

Automatic Control System for 15 Unit Heaters, by K. E. Rockhold.
Vol. 6. *No.* 3. *March*, 1934. *p.* 106.
Unit heater installation at Central Market House, York, Pa.; 14 units supply 3,000,000 Btu per hr; the control system; diagram of control; reasons for installing system. (Illus.)

Bausch & Lomb Optical Company Modernizes Plant Heating, by Gray D. Dickason.
Vol. 6. *No.* 10. *October*, 1934. *p.* 415.
Steam consumption for heating Bausch & Lomb plant at Rochester, N. Y.; change-over to differential vacuum operation; central panel board for temperature control; zoning; unit heater control and operation; economies of modernization; operating records; steam consumption and degree days. (Illus.)

Bush Terminal Company Proves Wisdom of Modernizing Plant & Building Heating Systems, by Fred L. A. Schmidt.
Vol. 6. *No.* 9. *September*, 1934. *p.* 387.
Description of Bush Terminal Co. facilities, New York City; savings from modernizing heating system; the system before and after modernization; zoned orifice control; economic life of a heating system; 160,000 ft of pipe used in modernization work; organization of the work. (Illus.)

Electrical Power Industry Has Many Heating and Air Conditioning Problems, by Lee P. Hynes.
Vol. 6. *No.* 9. *September*, 1934. *p.* 382.
The hydro-electric generation of power; heat and humidity problems; how ice is combated; overcoming condensation troubles; dew-point control system to prevent condensation on surfaces; electric heating units; drying out electrical equipment; removing moisture from insulating oils. (Illus.)

Estimating Fuel Oil Consumption for Heating a Laundry Building.
Vol. 6. *No.* 7. *July*, 1934. *p.* 68 (*back section*).
(Answer by Samuel R. Lewis to question); typical example worked out.

Exhaust Steam Utilization Offers Economy to Plants and Buildings, by Perry West.
Vol. 6. *No.* 2. *February*, 1934. *p.* 49.
Utilization of exhaust steam promotes economy in space heating, air conditioning, drying, water heating, and process; general considerations and properties of steam; heat balance and adjustment of back pressures; uses of exhaust steam; exhaust steam for heating; studying heating loads and exhaust steam supply; heating, electric, hot water and refrigerating loads for hotel for winter, summer, and fall and spring months; similar curves for an office building, a manual training high school, and an apartment building; method of developing the curves; ideal steam consumption or water rates for steam turbines and engines; tables of efficiencies and factors for fractional loads; electrical consumption of various types of buildings. (Illus.)

Exhaust Steam Utilization Offers Economy to Plants and Buildings, by Perry West.
Vol. 6. *No.* 4. *April*, 1934. *p.* 169.
Heating requirements of buildings; balancing the loads; water heating loads; exhaust steam for drying and process; exhaust steam for air conditioning. (Illus.)

Gas-Fired Unit Heaters Solve Many Plant Heating Problems, by Herbert Chase.
Vol. 6. *No.* 8. *August*, 1934. *p.* 346.
Applications of gas-fired unit heaters in industrial plant heating; results achieved in a number of plants; considerations involved; control. (Illus.)

Heat Loss Through a Canvas Partition.
Vol. 6. *No.* 1. *January*, 1934. *p.* 6.
Question and Answer; method of calculating resistance to heat transmission of an inside canvas partition.

Heat Transfer in a Stainless-Steel Internal-Tube Milk Heater, by T. K. Sherwood.
Vol. 6. *No.* 2. *February*, 1934. *p.* 62.
Answer to specific question worked out in detail.

Heating and Air Conditioning Buildings with the Reversed Refrigeration Cycle, by C. F. Mowrey.
Vol. 6. *No.* 6. *June*, 1934. *p.* 257.
Reversed refrigeration cycle using gas-engine-driven compressor proposed; heating by means of the cycle; use of gas-engine-driven compressor; application of proposed layout to a warm air heating system; size of engine and compressor; possible control methods. (Illus.)

Heating and Air Conditioning Buildings with the Reversed Refrigeration Cycle, by C. F. Mowrey.
Vol. 6. *No.* 7. *July*, 1934. *p.* 295.
(Continued); application to warm air type of system, no recirculation; other methods of application; possible objections to method. (Illus.)

Heating Plant Check-Up Pays! by C. W. Kimball.
Vol. 6. *No.* 10. *October*, 1934. *p.* 426.
Consulting engineer investigates heating of hospital in Boston; modernization of the boiler plant; boilers are oil-fired; other modernization work; meters installed; severe winter proves investment in modernization sound; operating records show savings made. (Illus.)

Metallic Insulation, by A. F. Dufton.
Vol. 6. *No.* 2. *February*, 1934. *p.* 63.
Test set-up and method of conducting test for determining thermal conductivity of metallic insulation; results of tests.

Method of Installing the Panel Heating System in British Embassy Building.
Vol. 6. *No.* 7. *July*, 1934. *p.* 304.
(Answer by L. L. Munier to question); method of installation and insulation; principle of panel heating.

Modernize Means Profit to Many Apartment Buildings, by H. R. Coleman.
Vol. 6. *No.* 9. *September*, 1934. *p.* 377.
Reasons for modernizing apartment building heating systems; forced hot water heating system for Granada Court building, Portland, Ore.; shunt fittings installed at each radiator connection. (Illus.)

New Heating Plant of Radical Design, by B. R. Sheldon, with F. A. Westbrook.
Vol. 6. *No.* 11. *October*, 1934. *p.* 461.
Modernization of central heating plant for Mount Holyoke College, South Hadley, Mass.; reasons for modernization; new plant comprises 120 oil-fired boiler units; draft; central control of units; automatic cycling controls for buildings heated; maintaining water level in units. (Illus.)

New $3,800,000 Central Steam System Heats 42 Washington (D. C.) Buildings, by Pierce Timmis.
Vol. 6. *No.* 6. *June*, 1934. *p.* 250.
The plant design and location; maximum steam demand is 850,000 lb. per hr; the distribution system; welding the piping; normalizing the welds; integrating steam flow meters; metering in two stages; lighting the tunnels. (Illus.)

Oil-Fired Central Boiler Plant Modernizes Heating System for Five Apartment Buildings, by Albert E. Vroome.
Vol. 6. *No.* 5. *May*, 1934. *p.* 202.
Villa D'Est apartment group, near Philadelphia, Pa.; advantages of modernization of heating plant; two 175-hp oil-fired boilers; layout and insulation of piping; pumping units for returning condensate; installation of welded piping; hot water supply system; steam flow meters; operating records. (Illus.)

Operating Results with a Pulverized-Coal-Burning Plant, by Samuel R. Lewis and S. I. Rottmayer.
Vol 6. *No.* 1. *January*, 1934. *p.* 7.
New steam-generating plant installed for Chicago warehouses and offices of Jos. T. Ryerson & Son, Inc.; two-pipe steam-heating system with vacuum pumps; old boiler plant; new plant; boilers; breeching designed to separate fly ash; coal- and ash-handling equipment; auxiliary equipment and instruments; operating results show savings obtained; preventing steel in storage from rusting. (Illus.)

Placing Radiator on Inside Wall.
Vol. 6. *No.* 6. *June*, 1934. *p.* 253.
Answer by Samuel R. Lewis to question about advantages of placing radiator on inside or outside wall.

Plants and Buildings Modernize with Stokers.
Vol. 6. *No.* 8. *August*, 1934. *p.* 336.
Survey of advantages of several stoker installations in reducing heating cost, improving service and eliminating smoke. (Illus.)

Smoke Abatement in Hudson County, N. J.
Vol. 6. *No.* 3. *March*, 1934. *p.* 100.
Smoke abatement saves fuel users $531,000 in three-year period, reports Wm. G. Christy, smoke abatement engineer; methods of reducing smoke.

Split System for School Buildings.
Vol. 6. *No.* 10. *October*, 1934. *p.* 72 (back section).
(Answer by Platte Overton to question); calculation for heating school building by split system; ventilation requirements.

Stoker Firing Low Pressure Heating Plants, by Clint E. Beery.
Vol. 6. *No.* 4. *April*, 1934. *p.* 155.
Origin of underfeed stokers; coal a basic industry; high pressure and low pressure steam generating plants; stokers and boiler design; furnace design; the stoker as an investment; screw-feed and ram-type; coal for automatic coal burners; fly ash and its correction; smoke abatement; effect of varying ash percentage in coals; percentage of heating plant capacity to maintain 70 F. inside. (Illus.)

When Does Building Insulation Pay? by Paul D. Close.
Vol. 6. *No.* 12. *December*, 1934. *p.* 501.
Need for insulation in saving in cost of winter and summer air conditioning; economics of heat transfer; return on investment; diminishing return; optimum thickness of insulation; annual heat and insulation costs; special conditions; typical examples solved. (This article includes information from a paper presented at a meeting of the *Society for the Promotion of Engineering Education.*) (Illus.)

Piping

Alignment Chart for Solving Problems in Orifice Flow, by Allen S. Smith.
Vol. 6. *No.* 9. *September*, 1934. *p.* 392.
Equations upon which chart is based; construction and use of the chart. (Illus.)

Bibliography of Piping Information.
Vol. 6. *No.* 10. *October*, 1934, *p.* 433, and *Vol.* 6. *No.* 11. *November*, 1934. *p.* 78 (back section).
Listing of articles on piping published in Heating, Piping and Air Conditioning, May, 1929-November, 1934, inclusive.

Check Compressed Air Piping to Stop Waste, Excessive Cost, by A. W. Loomis.
Vol. 6. *No.* 9. *September*, 1934. *p.* 379.
Check-up is a paying proposition; location of intake piping; aftercoolers and receivers; checking the piping; cost of steam, water and air leaks; other possible savings. (Illus.)

Computing the Thickness of Pipe, by Sabin Crocker.
Vol. 6. *No.* 2. *February*, 1934. *p.* 55.
(Article No. 2 on the Code for Pressure Piping); establishing the formula for use in computing safe thickness of pipe for any application in any of the several Code sections; the formula as worked out; values for *S* and *C;* water-hammer allowance for cast iron pipe; basis for allowable stress (*S* values); diversity of *S* and *C* values; maximum service temperature for various materials; explanation of Code paragraphs. (Illus.)

Corrosion of Piping—an Experience Report, by H. A. Ward.
Vol. 6. *No.* 9. *September*, 1934. *p.* 391.
Corrosion troubles in central plant heating system underground piping; corrosion in return lines due to trap discharge; method of correction. (Illus.)

Fabrication and Installation of the World's Largest Piping, by W. A. Cather.
Vol. 6. *No.* 8. *August*, 1934. *p.* 343.
Brief description of fabrication and installation of large piping for hydraulic power and outlet works tunnels at Boulder Dam. (Illus.)

Handling Process Materials that Require Melting, by Lee P. Hynes.
Vol. 6. *No.* 7. *July*, 1934. *p.* 289.
Amount of heat to supply; example (paraffin); local reheating of piping; cooling needed at certain points; piping and tanks must resist corrosion; construction details pictured. (Illus.)

How Does Increased Steam Pressure Affect Piping Maintenance? by W. H. Wilson.
Vol. 6. *No.* 2. *February*, 1934. *p.* 59.
Experience at one plant; expansion, contraction, gaskets, valves, insulation. (Illus.)

Identify Plant Pipe Lines to Save Time and Mistakes, by Robert W. Cuthill.
Vol. 6. *No.* 4. *April*, 1934. *p.* 168.
Piping identification chart and instructions as used at Naval Aircraft Factory, Philadelphia, Pa. (Illus.)

Industrial Process Piping—Welding and Brazing Joints and Connections of Industrial Vessels, by Lee P. Hynes and W. Schoeni.
Vol. 6. *No.* 11. *November*, 1934. *p.* 463.
Recommendations for welding practice—steel, nickel and monel, aluminum, stainless steel, everdur, brass and copper; welding jacketed vessels; special fittings for welding; details of various types of joints and connections. (Illus.)

Insulating Steam Line Supports and Anchors.
Vol. 6. *No.* 10. *October*, 1934. *p.* 70 (back section).
(Answer by Robert L. Fitzgerald to question); sketch and description of method of insulating underground steam line supports and anchors with rock wool. (Illus.)

Methods of Installing Refrigeration Piping, by Robert S. Wheaton.
Vol. 6. *No.* 12. *December*, 1934. *p.* 512.
Installation of refrigeration piping in winter ice storage rooms; practice; installing coils in brewery beer storage rooms; method of making double offset to avoid obstructions. (Illus.)

Mine Modernizes Pump Control.
Vol. 6. *No.* 2. *February*, 1934. *p.* 64.
Copper mine saves $10,000 per year by improving pump control equipment.

The New Code for Pressure Piping, by Sabin Crocker.
Vol. 6. *No.* 1. *January*, 1934. *p.* 1.
Proposed American Standard Code for Pressure Piping; need and inception of code; committee organization and historical sketch; scope, content, and plan; Section I—Power Piping; materials; dimensional standards for flanges and fittings; valves; reducing and relief valves; bolting; pipe threads; pipe joints; gaskets; thermal expansion; hangers, supports, and anchors; pipe sleeves; drips, drains, and steam traps; inspection, tests, and cleaning; table of hydrostatic tests for steel fittings and valves. (Illus.)

New Pressure Piping Code Reviewed, by Sabin Crocker.
Vol. 6. *No.* 5. *May*, 1934. *p.* 207.
Requirements for gas and air piping systems; extracts from Section 2 of Code; district heating distribution systems; extracts from Section 4 of Code. (Illus.)

New Pressure Piping Code Reviewed, by Sabin Crocker.
Vol. 6. *No.* 6. *June*, 1934. *p.* 254.
Review and explanation of section on fabrication details; hangers, supports, etc.; expansion and flexibility; thermal expansion of piping materials.

Oil Piping Systems, by Sabin Crocker.
Vol. 6. *No.* 3. *March*, 1934. *p.* 102.
Section 3 of Code for Pressure Piping, covering oil piping systems for production, transmission and refining of petroleum; requirements for oil piping; materials; thickness of wrought pipe; thickness of cast iron pipe; summary of requirements and recommendations for oil piping systems; service oil pressure ratings for carbon steel valves and fittings, and for chrome-nickel or equivalent alloy steel valves and fittings. (Illus.)

Oil Piping Systems for Production, Transmission and Refining of Petroleum, by Sabin Crocker.
Vol. 6. *No.* 4. *April*, 1934. *p.* 161.
(Review of Code for Pressure Piping, continued); valves; joints, flanges and fittings; miscellaneous requirements. (Illus.)

Piping and Pumping Molasses for Industrial Process Uses, by Lee P. Hynes.
Vol. 6. *No.* 5. *May*, 1934. *p.* 197.
How molasses is obtained; uses; unloading from tankers; viscosity of black strap molasses; handling molasses at the plant; selecting pumps and motors; pumping molasses to process tank; heating. (Illus.)

Carbon Dioxide Gas in Molasses Complicates Piping and Pumping by Wm. E. Worcester.
Vol. 6. *No.* 9. *September*, 1934. *p.* 381.
(Comment on "Piping and Pumping Molasses" in May, 1934, issue); allowing for carbon dioxide gas in molasses and importance of so doing.

Flow and Pressure Drop Calculations for Process Piping, by Emory Kemler.
Vol. 6. *Nos.* 1-5. *January-May*, 1934.
Series of charts to facilitate making pressure crop calculations for liquids of various kinematic viscosities flowing in pipe of different sizes; chart for ¾ in. pipe in January, 1934, issue, p. 21; chart for ½ in. in March, 1934, issue, p. 114; chart for ¼ in. in May issue, p. 213; chart for ⅜ in. in April issue, p. 172; see explanation of use of charts in October, 1933, issue.

Piping at High Temperatures, by E. W. Norris.
Vol. 6. *No.* 10. *October*, 1934. *p.* 420.
Behavior of steel at high temperatures; creep; piping for 650 lb. and 850 F. at Buzzard Point, Washington, D. C.; design of connections; method of testing; face-to-face flange pressure; seal-welding of flanges; gaskets; results of tests on connections. (Illus.)

Piping Layout and Steam Pressure Control in Steam Generating Plants, by E. C. Gaston.
Vol. 6. *No.* 12. *December*, 1934, *p.* 506.
Need for careful attention to location of control; variation of steam pressure in piping; loss in superheater; typical example. (Illus.)

Piping That's Clean Is Brewery Requirement, by Daniel T. O'Neil and Waldemar Mortensen (as told to Francis A. Westbrook).
Vol. 6. *No.* 3. *March*, 1934. *p.* 112.
Harvard Brewery, Lowell, Mass., reconditioned; new pipe line from stockhouse to government tanks of seamless copper tubing; arrangements for cleaning; special lock fitting. (Illus.)

Prefabrication of Welded Piping for the Buzzard Point Plant, by A. W. Moulder.
Vol. 6. *No.* 6. *June*, 1934. *p.* 241.
Description of plant; 730 lb. steam pressure and 835 F. total steam temperature; the piping; value of welded construction;

reasons for prefabrication; refinement in design; details of method of installing and prefabricating the piping. (Illus.)

Production Methods in Pipe Welding for Plant Construction, by G. E. Deatherage and J. B. Latterner.
Vol. 6. No. 12. December, 1934. p. 500.
(From a paper presented at 1934 meeting of *International Acetylene Assn.*); organization and method of installing welded piping during construction of industrial plants.

Pump Capacity Increased by Piping Change, by N. T. Pef.
Vol. 6. No. 7. July, 1934. p. 301.
Importance of piping layout in saving energy required for pumping; typical example shows savings. (Illus.)

Requirements for Welded Piping Joints, by Sabin Crocker.
Vol. 6. No. 7. July, 1934. p. 298.
(Review of Code for Pressure Piping); methods for securing sound welds; qualification tests of welders; summary of code requirements for welded joints of piping and pressure vessels; check tests of welds; stress relieving welds; alignment for welding. (Illus.)

Requirements for Welded Piping Joints, by Sabin Crocker.
Vol. 6. No. 8. August, 1934. p. 339.
Review of Code for Pressure Piping requirements for welded piping joints; details of various types of welds and test specimens; qualification tests for welders; extracts from the Code requirements. (Illus.)

Steam Booster Compressors Simplify Piping, by C. G. Kohl.
Vol. 6. No. 10. October, 1934. p. 425.
Practical applications of steam booster compressors for supplying small quantities of higher pressure steam; features of this equipment. (Illus.)

Unloaders Relieve Pressure on Pistons for Automatic Compressor Starting, by Terry Mitchell.
Vol. 6. No. 2. February, 1934. p. 60.
Refrigeration system for maintaining ten storage rooms at different temperatures at Willard State Hospital, Willard, N. Y.; operation of various types of unloaders, ammonia and low-pressure brine cut-outs; signal lights show action of protective devices; diagram of control board for compressor units. (Illus.)

Use of Pipe for Piling.
Vol. 6. No. 5. May, 1934. p. 206.
Description of use of pipe for driving piling for building foundations, etc.

Welding Non-Ferrous Process Piping, by G. E. Deatherage.
Vol. 6. No. 1. January, 1934. p. 14.
Use of oxy-acetylene blowpipe in chemical and other process industries; choice of piping material, rod and flux; description of a typical aluminum and a copper piping system at a chemical plant, with explanation of fabrication methods, joining sweat-type copper fittings, testing, etc. (Illus.)

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